

CLAIMS

1. An isolated, purified or recombinant nucleic acid sequence encoding a gibberellin 2-oxidase enzyme comprising a nucleic acid sequence as shown in Figure 1 or a functional derivative thereof, or its complementary strand, or a sequence homologous thereto.
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2. A nucleic acid sequence as claimed in claim 1, which encodes an enzyme which has the activity of a gibberellin 2-oxidase enzyme of *Phaseolus coccineus*.
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3. A nucleic acid sequence as claimed in claim 1 which encodes a gibberellin 2-oxidase enzyme from *P. coccineus* or *Arabidopsis thaliana*.
4. A nucleic acid sequence as claimed in any one of claims 1 to 3, in which the coding sequence is operatively linked to a promoter.
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5. A nucleic acid sequence as claimed in claim 4, in which the promoter is a constitutive promoter.
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6. A nucleic acid sequence as claimed in claim 4, in which the promoter is specific for expression in a particular plant cell.
7. An isolated, purified or recombinant nucleic acid sequence comprising a promoter which naturally drives expression of a gene encoding a gibberellin 2-oxidase enzyme comprising a nucleic acid sequence as shown in Figure 1 or a functional derivative thereof, or its complementary strand, or a sequence homologous thereto.
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8. A nucleic acid sequence as claimed in claim 7, in which the gibberellin 2-oxidase enzyme is the gibberellin 2-oxidase enzyme of *Phaseolus coccineus* (*PcGA2ox1*).

5 9. A nucleic acid sequence as claimed in any one of claims 1 to 8, in which the gibberellin 2-oxidase catalyses the 2 β -oxidation of a C₁₉-gibberellin molecule to introduce a hydroxyl group at C-2.

10 10. A nucleic acid sequence as claimed in claim 9, in which the gibberellin 2-oxidase further catalyses the oxidation of the hydroxyl group introduced at C-2 to yield the ketone derivative

11. A nucleic acid sequence encoding a ribozyme capable of specific cleavage of RNA encoded by a gibberellin 2-oxidase gene.

15 12. An antisense nucleic acid sequence which includes a transcribable strand of DNA complementary to at least part of the strand of DNA that is naturally transcribed in a gene encoding a gibberellin 2-oxidase enzyme.

20 13. An isolated, purified or recombinant polypeptide comprising a gibberellin 2-oxidase enzyme having the amino acid sequence as shown in Figure 2.

14. A vector comprising a nucleic acid sequence as claimed in any one of claims 1 to 12.

25 15. A host cell transfected or transformed with a nucleic acid sequence as claimed in any one of claims 1 to 12.

16. A plant cell including a nucleic acid sequence as claimed in any one of claims 1 to 12.

17. A plant or a part of a plant at least some of whose cells are as claimed in 5 claim 16.

18. Propagating material from a plant as claimed in claim 17.

19. The use of a nucleic acid sequence as claimed in any one of claims 1 to 12 10 in the preparation of a plant.

20. The use as claimed in claim 19 in which the gibberellin 2-oxidase is constitutively overexpressed in the plant to reduce the concentration of bioactive gibberellins (GAs) in the plant.

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21. The use as claimed in claim 19 in which expression of endogenous GA 2-oxidase genes in transgenic plants is reduced.